

The Milwaukee Light Heat and Traction Company
8336 West Lapham Street
(Northeast Corner, South 84th and Lapham)
West Allis
Milwaukee County
Wisconsin

HAER NO. WI-9

HAER
WIS,
40-WESAL,
1-

PHOTOGRAPHS

WRITTEN HISTORICAL AND DESCRIPTIVE DATA

Historic American Engineering Record
National Park Service
Rocky Mountain Regional Office
Department of the Interior
P.O. Box 25287
Denver, Colorado 80225

HISTORIC AMERICAN ENGINEERING RECORD
THE MILWAUKEE LIGHT HEAT AND TRACTION COMPANY

HAER
WIS
40-WESAL,
1-

Location: 8336 West Lapham Street (Northeast corner,
South 84th and Lapham), West Allis,
Milwaukee County, Wisconsin.

USGS Wauwatosa Quadrangle, Universal
Transverse Mercator Coordinates:
Zone 16 Easting 417130 Northing 4762540

Present Owner: Department of Transportation
State of Wisconsin

Present Occupant: Economy Supply Company of Wisconsin
1500 S. 84th Street
West Allis, Wisconsin
(To be vacated by January 1, 1985)

Significance: A turn of the century objective of The Milwaukee Electric Railway and Light Company, through its subsidiary The Milwaukee Light Heat and Traction Company, was to establish an interurban rail system that encompassed all of southeastern Wisconsin. The first step of this plan was completed in 1898 when a Milwaukee to Waukesha line was built. The West Allis station was built along this line five years later and was important to the line's 1907 extension to Oconomowoc and 1908 extension to Watertown, since it provided much of the power needed to run the lines. The station's importance was further enhanced by its utility as a car barn and light repair facility. It remains today, an artifact from the early days of mass transit in Milwaukee and southeastern Wisconsin.

PART I. HISTORICAL INFORMATION

A. Physical History:

1. Date of erection: 1903-1904. The building's construction is well documented by dated photographs in a Wisconsin Electric Power Company photo album.

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2. Architect: Unknown.
3. Original and subsequent owners: Documents listed in the following incomplete chain of title are located at the Register of Deeds Office, Milwaukee County, Wisconsin.
 - 1902 Deed - April 30, 1902. Recorded in Volume 456, page 364.
Mary A. Abbott to Milwaukee Light Heat and Traction Company.
 - 1919 Deed - February 10, 1919. Recorded in Volume 791, pages 160-245.
Milwaukee Light Heat and Traction Company to The Milwaukee Electric Railway and Light Company.
 - 1938 Deed - October 21, 1938. Recorded in Volume 1524, page 16.
Wisconsin Electric Power Company to The Milwaukee Electric Railway and Transit Company.
 - 1952 Deed - December 30, 1952. No recording data.
East half of the building (car barn) from The Milwaukee Electric Railway and Transit Company to Milwaukee and Suburban Transport Corporation.
 - 1953 Deed - June 29, 1953. Recorded on Reel 3174, page 552.
West half of building (office portion and substation) from The Milwaukee Electric Railway and Transit Company to Wisconsin Electric Power Company.
 - 1979 Deed - January 9, 1979. Recorded on Reel 1174, images 6-9.
Wisconsin Electric Power to the State of Wisconsin.
4. Builders, suppliers:
 - A. Builders: Unknown
 - B. Suppliers: S. Freeman and Sons Manufacturing Company, Racine, Wisconsin, provided the building's two boilers. The 30 ton traveling overhead crane was supplied by Pawling and Harnischfeger Builders, Milwaukee, Wisconsin

(Information obtained from an inspection of the building).

5. Original plans and construction: The original plans have not been found, but photographs in the possession of Wisconsin Electric Power Company document well the building's construction and early appearance. Six of these photographs are included in this photo/data set; they are photograph numbers WI-9-33 through WI-9-38.

The photographs reveal a structure built on a north-south axis. The building's great length parallels S. 84th Street and its front faces Lapham Street. A two story office area was located in the southwest quarter of the building, while the northwest quarter contained a single story electrical substation with a high ceiling matching that of the offices on the second floor. A single story car barn occupied the entire east half of the structure.

6. Alterations and additions: The structure achieved its final form in 1929, having undergone five major additions or modifications. The first addition was built in 1909. It was a two story annex to the electrical substation, and was significant because it was the first portion of the building to achieve its present height. The second addition was built in 1914, and, again, it was a two story addition to the substation. In early 1916 the hipped roof with flared eaves was removed from the original substation and a second floor added. The fourth addition, also built in 1916, was to the car barn. It extended the length of the barn to the north, and matched the end line of the second addition to the substation. The final alteration to the building came in 1929 when the remaining portion of the original hipped roof was removed from the office area, and was replaced by a flat composition roof with parapets and stone coping. Decorative eaves were retained and used in conjunction with the parapets.

B. Historical Context:

Street cars in Milwaukee date back to 1860 when the River and Lakeshore City Railway operated its first run from Walker's Point to a place north of downtown, along the lakeshore. Initially propelled by horses, electric street cars were not introduced to the city

until 1890. At that time a line ran west along Wells Street out to 34th Street and was powered by a generator built at 12th Street and Wells (Canfield, pp. 10, 17).

About the time that the first electrically powered street car made its first run, Milwaukee aldermen, who had been very slow to license electric power companies, began licensing them very rapidly. This created a situation where numerous companies existed, all competing for a limited market. It was into this foray that Henry Villard, journalist, railroad owner and president of the Edison General Electric Company, entered in 1890.

Villard entered the Milwaukee electrical power market hoping to buy and consolidate the competing companies, thereby giving the city a reliable, unified power company and his investors a generous return on their investments. Villard organized the North American Company and its subsidiary, the Milwaukee Street Railway Company, to accomplish that goal. All went well with Milwaukee Street Railway Company until 1896, when, due to financial problems, Villard reorganized it as The Milwaukee Electric Railway and Light Company (Canfield, pp. 28, 31).

One of the major objectives of The Milwaukee Electric Railway and Light Company (TMERLCO) was to establish an interurban rail system encompassing all of southeastern Wisconsin. To facilitate that goal, TMERLCO formed the Milwaukee Light Heat and Traction Company on December 21, 1896. It was "to build and hold title to electric and traction properties outside the limits of the City of Milwaukee" (McDonald, p. 59; Canfield, p. 32).

About the same time the Milwaukee Light Heat and Traction Company (MLHTCO) was being established, S.J. Henderson was incorporating the Waukesha and North Greenfield Electric Railway Company (WNGERCO). WNGERCO obtained a right of way from Waukesha "to a point just east of what later became the West Allis station at South 84th and Lapham" (Canfield, p. 225). WNGERCO attempted to gain entry into the City of Milwaukee, a condition vital to the financial success of his venture, by acquiring the Milwaukee and Wauwatosa Motor Railway. This move was blocked by TMERLCO, which acquired the Milwaukee and Wauwatosa Motor Railway and assigned it to the MLHTCO. With the loss of its Milwaukee entry WNGERCO went bankrupt and was purchased by TMERLCO and assigned to the

Milwaukee Light Heat and Traction Company (Canfield, pp. 234, 235).

The first segment of the anticipated southeastern Wisconsin empire opened on June 28, 1898, when the first trolley ran past the future site of the West Allis station and on out to Waukesha. The West Allis station was built in 1903-1904 and included a trolley barn, office, and electrical substation. It was the substation's responsibility to convert alternating current electricity to direct current for the trolleys, and then channel the remaining alternating current out to neighborhood customers. Its significant role at this time was in converting the alternating current to direct current because that electricity was needed to enable the trolleys to move farther west, to Oconomowoc and Watertown, as well as south, down to Hales Corners and beyond. The West Allis station was transmitting power rated at 38,000 volts at this time, according to a power transmission map located at Wisconsin Electric Power Company.

The West Allis station saw its first and longest term of service as a trolley stop and car barn on Rt. 93, the interurban from downtown to Waukesha and points west. That ran from June 25, 1898 to June 30, 1951. It saw service on Wells Street Rt. 10 from May 20, 1920 to October 3, 1943, and on Rt. 18, the National Avenue line from October 3, 1943 to May 29, 1955. As trolley traffic in Milwaukee began to decline, stations were closed one by one, until 1954 when only the West Allis, National Avenue and Kinnickinnic stations remained open. The West Allis station saw its last trolley on May 29, 1955, and the last trolley to run in Milwaukee was on March 2, 1958 (Canfield, pp. 195, 77, 88, 62, 424, 64).

The car barn continued to be utilized, however, as a bus garage, drivers office and locker facility by the Milwaukee and Suburban Transport Company until the early 1960s. In the course of the next several years the remainder of the substation duties were transferred to a smaller building across South 84th Street, and the Milwaukee Light Heat and Traction Company, West Allis Station, ceased to serve in any of its designed capacities.

PART II. ARCHITECTURAL INFORMATION

A. General Statement:

1. Architectural character: Built between 1903 and 1904, the West Allis station of the Milwaukee Light Heat and Traction Company did not achieve its final form until 1929. The building and its features are massive and somewhat out of proportion for the residential neighborhood to the west and its commercial neighbors to the east. As such, the building imposes a very commanding presence over the immediate area.
2. Condition of fabric: The building has been neglected for the last ten to twenty years. Structurally it is sound, but the composition roofs over the office and car barn have deteriorated badly. Many of the windows have been broken, thereby subjecting the interior to the weather. That, in addition to the removal of all utilities, has hastened the building's deterioration, especially in the office area interior.

B. Description of Exterior:

1. Overall dimensions: The rectangular structure is 71'5" across and 319' deep. It is comprised of three distinct portions, a two story office area to the southwest that measures 110' by 34', an adjoining two level electrical substation to the northwest with dimensions of 209' by 34' and a single story car barn measuring 319' by 37'5" that occupies the entire east half.
2. Foundation: Poured concrete foundations are 20" thick, with a 7" cut stone veneer on the west half of the south elevation, the west elevation and the west half of the north elevation. The veneer also serves as a water table.
3. Walls: Exterior walls are of red pressed brick laid in a Flemish bond. Joints are 3/8" thick. Particular traits of each wall are as follows:
 - a. South wall: The office portion of the south wall has a recessed panel crowned with a segmental arch into which the three second floor office windows are set. This wall is further distinguished by the carved stone name plate just below the panel, which identifies the building's owner as the "Milwaukee Light Heat and Traction Company."

- b. West wall: This wall is divided between the office area to the south and the substation to the north. A stone belt course divides the first floor office windows from those on the second floor. All second floor windows are placed in one of two recessed panels, the southern most of which is crowned with a segmental arch. The substation portion of the west wall contains three apparent levels. The first floor level, into which most of the windows are set, seems to rest on the water table. Dividing the first level from the recessed panels of the second is a stone belt course. A brick belt course is located at the top of the second level panels, thereby creating a clerestory just underneath the flared eaves of the roof.
 - c. North wall: The substation portion of this wall is distinguished by the same three levels as the west wall.
 - d. East wall: This wall is distinguished by twenty recessed panels that extend the height of the wall. Each panel is crowned by a round arch with stone springers and a keystone. The seven arches of the 1916 addition are of solid brick, as are two from the original part. The remaining original arches all have windows in the round arch crown.
- 4. Structural system and framing: The brick walls are load bearing, although iron framing was set up inside to carry the overhead cranes. The load of each floor is carried to the walls by iron beams, usually encased in concrete. Iron trusses carry the load of the substation roof to the walls, while the roof of the car barn is supported by either concrete beams or iron beams encased with concrete.
 - 5. Chimneys: The chimney served the boilers that heated the building. It is built of brick and is 7' by 7'.
 - 6. Openings:
 - a. Doorways and doors: The pedestrian door on the south side measures 3' by 7'5", has a 3' by 18" transom, a flat arch with keystone, and is crowned with a decorative brick

cornice. The pedestrian door on the west side is placed in a 6' by 8' opening that also includes a transom and side lights. It too is crowned by a flat arch. The car barn door on the south side has been partially bricked over, reduced from 31'4" by 17' to 24' by 14'. The north side contains a 12' by 12' rolling steel door with a three light transom on the substation half, while the door on the car barn half was, again, partially bricked over.

- b. Windows and shutters: Standard window sizes for the office portion of the building include 3'6" by 7' windows with segmental arches, 3'6" by 8' windows with flat arches and key stones and 2'6" by 5' windows, grouped in pairs, under round arches with stone springers and key stones. The round arches also contain a semi-circular window. These windows are all double hung.

Windows on the substation portion are 6' by 14' and crowned by round arches with stone springers and keystones that contained a semi-circular window.

An additional number of small windows exist, being located in the clerestory around the substation.

8. Roof:

- a. Shape, covering: A hipped roof with flared eaves covers the substation portion of the building. The deck is a 3" concrete slab that had been covered with glazed tile. It now has a composition roof covering. The office and car barn portions of the building have flat roofs with parapets and coping. They are also covered with composition roofing. The car barn roof is punctuated with ten skylights measuring 24' by 6'8". They are made of galvanized iron and wire glass.
- b. Cornice, eaves: The soffit and mock rafters that seem to support the eaves are all made of crimped, galvanized iron. The brackets that also seem to support the eaves are wood covered with galvanized iron. Gutters are galvanized iron lined with copper.

C. Description of Interior:

1. Floor plans:

- a. Basement: The basement of the office section contained mostly equipment rooms and store rooms. The basement of the substation was divided into three rooms, one open area for the original structure, as well as for each of the two additions.
- b. First floor: The first floor of the office included the clerk's office in the southwest corner, the division superintendents office just to the east of the clerk, and the report room just to the north of the clerk. A men's locker room and toilet, along with a woman's lavatory accounted for most of the east half of the first floor. The station's boiler room took much of the northwest corner of the office's basement and first floor. The first floor of the substation was open as was the ground level of the car barn. Work pits existed in the car barn for each of the three trolly tracks.
- c. Second floor: The south half of the office's second floor was the assembly room. Proceeding north there was a wardrobe room on the left and a doctor's office on the right, then classroom no. 2 on the left and classroom no. 1 on the right. Classroom no. 1 last served as a locker room. The second level of the substation is one huge, long, open room.

2. Stairways: There are two stairways in the office portion of the building. The first provides a straight ascent to the second floor, starting at the south pedestrian door. It has twelve 4'6" by 12" steps leading to a 4'6" by 3'4" balcony, then nine more 4'3" by 12" steps proceeding onto the second floor. The other office stairway originates at the west pedestrian door. There are seventeen 3'10" steps heading due east to a 8'5" by 5' landing where a 180 degree turn is encountered before negotiating the remaining three stairs.

There are also three spirial stairways in the substation. One goes from the basement to the first level, another from the first level to the

second, and the third from the basement to the second level. These stairs have a 5'2" diameter and are built with brass hand rails.

3. Flooring: The first and second levels in the office have terrazzo floors, while the basement, the first level and the second level of the substation, as well as the car barn all have poured concrete floors.
4. Wall and ceiling finish: Walls in the substation and car barn are not finished, they are only painted. The office walls are finished, with plaster on wooden lath. There is no insulation on the walls, stringers being nailed directly to the bricks and the lath being nailed right on to that.
5. Doorways: The standard doors for the office area ranged from 7' by 2'6" to 7' by 3'.
6. Mechanical equipment: It is no longer at the building. When Wisconsin Electric vacated the building, they removed everything.

D. Site:

Built on a north-south axis, the structure faces south. Its frontage on S. 84th Street is 320' and 71'5" on W. Lapham Street. Located in a very diverse area, the building has residential neighbors just to the west, and commercial and light industrial neighbors to the north and east. This is vastly different from the time in which it was built, when the streets were not paved and it was clearly in the country.

PART III. SOURCES OF INFORMATION

- A. Original architectural drawings: Although the original plans have not been found, original drawings do exist for each of the subsequent additions. Donated by the Wisconsin Electric Power Company, these drawings are now in the possession of the State of Wisconsin, Department of Transportation. The curation of these drawings must yet be arranged for, but a sample of them are included as photocopies in this photo/data set.
- B. Early Views: Photographs documenting the building's construction and early existence are to be found at

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the Wisconsin Electric Power Company, 221 West
Michigan Avenue, Milwaukee, Wisconsin.

C. Bibliography:

1. Primary and unpublished sources:

Milwaukee County. Deeds and Records. Milwaukee,
Wisconsin.

2. Secondary and published sources:

Canfield, Joseph M. TM: The Milwaukee Electric
Railway and Light Company. Chicago: Central
Electric Railfans Association, 1972.

McDonald, Forrest. Let There Be Light: The
Electrical Utility Industry in Wisconsin,
1881-1955. Madison: The American History
Research Center, 1957.

D. Likely Sources Not Yet Investigated:

The State Historical Society of Wisconsin has a wide
variety of materials that may assist future research
into The Milwaukee Electric Railway and Light Company,
The Milwaukee Light Heat and Traction Company, as well
as the history of the West Allis station. Their
materials include a large manuscript collection titled
"Milwaukee Electric Railway Companies" and the papers
John I. Beggs, the general manager for The Milwaukee
Electric Railway and Light Company. Their map
collection includes several early street car maps, and
their iconographic collection may house additional
photographs.

Prepared by:

John N. Vogel
Consulting Historian
Milwaukee, Wisconsin
December 14, 1984

PART IV. PROJECT INFORMATION

This project was sponsored by the State of Wisconsin,
Department of Transportation. It was undertaken by
John N. Vogel, a consulting historian, who provided the
photographic work, the historical data as well as the

architectural data. Mr. Vogel was assisted in this endeavor by David Keene, a graduate student at the University of Wisconsin - Madison.